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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,848	03/15/2005	Xuanming Shi	05505-PCT	1877

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EXAMINER

NADKARNI, SARVESH J

ART UNIT	PAPER NUMBER
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2629

NOTIFICATION DATE	DELIVERY MODE
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12/13/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/527,848

Applicant(s)

SHI, XUANMING

Examiner

Sarvesh J. Nadkarni

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-7,11,12 and 15-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-7,11-12,15-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to the Amendment filed August 31, 2007, in relation to Application Number: 10/527,848 (hereinafter referred to as "amendment"). Claims 2-3, 8-10, and 13-14 have been cancelled. Claims 1, 4-7, 11-12 and 15-23 have been amended. No claims have been newly added. Therefore, claims 1, 4-7, 11-12 and 15-23 are currently pending.

NOTE: This case has been transferred to Examiner Sarvesh J. Nadkarni; although Applicant may notice formatting and stylistic changes from the First Office Action, substantive matters have been addressed in accordance with guidelines as established by the MPEP, and further, in accordance with Applicant's amendment.

Claim Rejections - 35 USC § 112

1. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. Claim 1 has been amended to include the phrase "orthogonal" which was not described in the originally filed specification.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 15, 16, 19, 20, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada (US 2003/0122774 A1) hereinafter referred to as the "Harada Publication", and further in view of Chao et al., (US 2003/0146881 A1) hereinafter referred to as the "Chao Publication".

4. Regarding claim 1 as amended, the Harada Publication clearly teaches **a touch control display screen** (see page 2, paragraph [0029] further illustrated in FIG. 2B) **with a built-in electromagnetic induction layer of wire lattice** (see page 2, paragraph [0029] describing layer further illustrated in FIG. 2B), **comprising: at least a display screen** (see FIG. 1; display screen as shown element 12) **and a housing** (see FIG 1; display screen depicted with housing further described on page 2, paragraph [0028]); **an electromagnetic induction layer being provided behind the display screen** (see page 2, paragraph [0029] describing layer further illustrated in FIG. 2B); **an induction control circuit** (see pages 2-3 paragraph [0033] describing controller) **connected to an output of said wire lattice of said electromagnetic induction layer** (see pages 2-3 paragraph [0033] describing controller connection); **and a display screen control circuit being provided in the housing** (see page 2 paragraph [0030]-[0033] continued on page 3).

5. The Harada Publication does not explicitly teach **said electromagnetic induction layer including a wire lattice formed by first wires winded along a first direction and second wire winded along a second direction orthogonal to said first direction, said first and second wires being interlaced separately; wherein said first and second wires have respective**

reference positions and are insulated with each other at cross points of said first and second wires.

6. In the same field of endeavor, the Chao Publication clearly teaches **said electromagnetic induction layer including a wire lattice** (see FIG. 2C further described at page 4, paragraph [0027]) **formed by first wires winded along a first direction** (see FIG. 2C further described at page 4, paragraph [0027] describing element 200A) **and second wire winded along a second direction** (see FIG. 2C further described at page 4, paragraph [0027] describing element 200B) **orthogonal to said first direction** (as depicted in FIG. 2C further described as Cartesian coordinates on page 4, paragraph [0027]), **said first and second wires being interlaced separately** (see page 4, paragraph [0027] describing individually looped); **wherein said first and second wires have respective reference positions and are insulated with each other at cross points of said first and second wires** (see FIG. 2C described at page 4, paragraph [0027] wherein the lines are covered by each other).

7. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate the touch panel induction layer layout as taught by the Chao Publication into the touch panel of Harada Publication because both are within the same field of endeavor and furthermore, because the Chao Publication reduces space requirements and lowers production costs, both progressively important and common goals within the art (see Chao Publication at page 4, paragraph [0028]).

8. Regarding claim 15, as amended, the Harada Publication in view of the Chao Publication clearly teaches **the touch control display screen with a built-in electromagnetic induction layer of wire lattice according to claim 1** (see above) **wherein said induction control circuit**

and said electromagnetic induction layer are integrated by direct connection (see Chao Publication at FIG. 2C elements 210B and 210A further described at page 4, paragraph [0027]), **components of said induction control circuit are directly positioned at said output of said wire lattice** (see Chao Publication at FIG. 2C elements 210B and 210A further described at page 4, paragraph [0027]), **and said induction control circuit is positioned in said housing** (see Harada Publication in FIG. 1, further described at page 2, paragraph [0029] further in FIG. 3, and page 2, paragraphs [0030] through page 3, paragraphs [0035] describing elements within the housing).

9. Regarding claim 16, as amended, the Harada Publication in view of the Chao Publication clearly teaches **the touch control display screen with a built-in electromagnetic induction layer of wire lattice according to claim 1** (see above), **wherein components of said induction control circuit are mounted on a printed circuit board that is separated from said electromagnetic induction layer** (it would be obvious to one having ordinary skill in the art at the time of invention to provide the control circuit on a separate circuit board for the commonly understood benefits of separate manufacturing of parts to improve interchangeability and prevent erroneous waste during the manufacturing process, both common goals within the art); **said output of said wire lattice of said electromagnetic induction layer is connected to a corresponding input terminal on said printed circuit board** (see Harada Publication at FIG. 3, further described at page 2, paragraph [0030] through page 3, paragraph [0035]) **by means of pressure-connection, plug-in connection or welding connection** (it would be an obvious to one having ordinary skill in the art to use any of these connections as they are well known and

commonly used in the art, and use of one over the other is a mere matter of manufacturing cost determinations and design structure).

10. Regarding claim 19, as amended, the Harada Publication in view of the Chao Publication clearly teaches **the touch control display screen with a built-in electromagnetic induction layer of wire lattice according to claim 1** (see above), **wherein said display screen control circuit is located outside said touch control display screen** (it would be obvious to one having ordinary skill in the art at the time of invention to place the display screen control circuit outside the touch control display screen for the commonly understood benefits of improving interchangeability through separate manufacturing of parts and preventing erroneous waste during the manufacturing process, both common goals within the art).

11. Regarding claim 20, as amended, the Harada Publication in view of the Chao Publication clearly teaches **the touch control display screen with a built-in electromagnetic induction layer of wire lattice according to claim 1** (see above), **wherein said induction control circuit is positioned outside said touch control display screen** (it would be obvious to one having ordinary skill in the art at the time of invention to place the display screen control circuit outside the touch control display screen for the commonly understood benefits of improving interchangeability through separate manufacturing of parts and preventing erroneous waste during the manufacturing process, both common goals within the art) **and connected to said touch control display screen through an electrical connection means** (it would be obvious to connect these elements through an electrical means for the unit to appropriately function); **said output of the said wire lattice of said electromagnetic induction layer is connected with an output interface of said induction layer by means of pressure-connection, plug-in**

connection or welding-connection (it would be an obvious to one having ordinary skill in the art to use any of these connections as they are well known and commonly used in the art, and use of one over the other is a mere matter of manufacturing cost determinations and design structure); **and an interface matching said output interface of said induction layer is provided on said control circuit** (it would be obvious to one having ordinary skill in the art at the time of invention to match interfaces in order to ensure the commonly understood benefits of compatibility of elements for proper functioning of the device, a common goal within the art).

12. Regarding claim 21, as amended, the Harada Publication in view of the Chao Publication clearly teaches **the touch control display screen with a built-in electromagnetic induction layer of wire lattice according to claim 20** (see above), **wherein said output interface of said electromagnetic induction layer and said interface of said induction control circuit are one of the following connection types: pin-type connection means, flexible printed circuit means, PIN-PIN connection means, welding spot (VGA) thermal-melted connection means, ultrasonic welding device, solder-plate welding device, or puncture-type connection means** (it would be an obvious to one having ordinary skill in the art to use any of these connections as they are well known and commonly used in the art, and use of one over the other is a mere matter of manufacturing cost determinations and design structure).

13. Regarding claim 23, as amended, the Harada Publication in view of the Chao Publication clearly teaches **the touch control display screen with a built-in electromagnetic induction layer of wire lattice according to claim 1** (see above), **wherein said display screen is a plasma panel or LCD** (see Harada Publication at page 1, paragraph [0004] further illustrated in FIG. 1).

14. Claims 4-6, 17-18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Harada Publication in view of the Chao Publication as applied to claim 1 above, and further in view of Keely et al., (US 2002/0063694 A1) hereinafter referred to as the "Keely Publication".

15. Regarding claims 4, as amended, the Harada Publication in view of the Chao Publication clearly teaches **the touch control display screen with a built-in electromagnetic induction layer of wire lattice according to claim 1** (see above). The Harada Publication in view of the Chao Publication does not explicitly teach **a shield layer is provided behind said electromagnetic induction layer in order to enhance anti-interference ability of said touch control display screen.**

16. In the same field of endeavor, the Keely Publication clearly teaches **a shield layer is provided behind the induction layer in order to enhance the anti-interference ability of the device** (see FIG. 1, element 66 further described at, but not limited to, page 2-3 paragraphs [0032]-[0037]).

17. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate shield layer as taught by the Keely Publication into the device of the Harada Publication in view of Chao Publication because all are within the same field of endeavor, namely electromagnetic inductive touch panel technology, and additionally, because the Keely Publication teaching protects the device from other electromagnetic-interference-producing components of the device (see page 2, paragraph [0032]).

18. Regarding claim 5, as amended, the Harada Publication in view of the Chao Publication Further in view of the Keely Publication clearly teaches **the touch control display screen with**

a built-in electromagnetic induction layer of wire lattice according to claim 4 (see above),
wherein a buffering layer is provided between said electromagnetic induction layer and
said shielding layer (see FIG. 1, further described at, but not limited to pages 2-3 paragraphs
[0032]-[0037] describing digitizer substrate 64).

19. Regarding claim 6, as amended, the Harada Publication in view of the Chao Publication
further in view of the Keely Publication clearly teaches **the touch control display screen with a**
built-in electromagnetic induction layer of wire lattice according to claim 5 (see above),
wherein a spatial gap is kept between said shielding layer and said display screen control
circuit (see FIG. 1, further described at, but not limited to pages 2-3 paragraphs [0032]-[0039]
describing the gap 14).

20. Regarding claim 17, as amended, the Harada Publication in view of the Chao Publication
further in view of the Keely Publication clearly teaches **the touch control display screen with**
a built-in electromagnetic induction layer of wire lattice according to claim 16 (see above),
wherein said output of said wire lattice of said electromagnetic induction layer is positioned
between a hard sheet and said printed circuit board (see Keely Publication, element 36 FIG.
1, further described at, but not limited to page 2, paragraphs [0032] through page 3, paragraphs
[0037]); **a buffering layer is positioned between said hard sheet and said output of said wire**
lattice (see Keely Publication, FIG. 1, element 50 further described at page 2, paragraphs [0032]
through page 3, paragraphs [0037]); **said hard sheet, said buffering layer and said output of**
said wire lattice are overlaid on said printed circuit board by means of screwing and
pressing connection (it would be obvious to one having ordinary skill in the art at the time of
invention to attach said layers by a means of screwing, or twisting and pressing to gain the

commonly understood benefits of a stronger bond between the layers); **and said output of said wire lattice is connected to said corresponding input terminal on said printed circuit board** (see Keely Publication at but not limited to FIG. 1, element 72, describing pages 2-3 paragraphs [0032]-[0042]).

21. Regarding claim 18, as amended, the Harada Publication in view of the Chao Publication further in view of the Keely Publication clearly teaches **the touch control display screen with a built-in electromagnetic induction layer of wire lattice according to claim 16** (see above), **wherein said printed circuit board is a printed circuit board of said display screen control circuit located inside said housing of said touch control display screen** (see Keely Publication element 24, further described at, but not limited to, pages 2-3 paragraphs [0032]-[0042]).

22. Regarding claim 22, as amended, the Harada Publication in view of the Chao Publication further in view of the Keely Publication clearly teaches **the touch control display screen with a built-in electromagnetic induction layer of wire lattice according to claim 1** (see above), **wherein a protective layer is provided on the front surface of the display screen** (see Keely Publication at but not limited to FIG. 1 and at pages 2-3, paragraphs [0032]-[0042] describing elements 30 and 34).

23. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Harada Publication in view of the Chao Publication as applied to claim 1 above, and further in view of Binstead (US 6,137,427) hereinafter referred to as "Binstead '427".

24. Regarding claim 7, as amended, the Harada Publication in view of the Chao Publication clearly teaches **the touch control display screen with a built-in electromagnetic induction layer of wire lattice according to claim 1** (see above).

25. However, Harada Publication in view of the Chao Publication does not explicitly teach **said first and second wires are enameled wires that are coated with an insulated layer.**

26. In the same field of endeavor, Binstead '427 clearly teaches **said first and second wires are enameled wires that are coated with an insulated layer** (see column 7, lines 52-60 describing use of enameled wires and insulation layer).

27. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate the wiring as taught by Binstead '427 into the device of the Harada Publication in view of the Chao Publication because all are within the same field of endeavor and additionally for the commonly understood benefits of preventing incidental electrical contact (see Binstead '427 at column 7, lines 52-57).

28. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over of the Harada Publication in view of the Chao Publication as applied to claim 1 above, and further in view of Yamazaki et al., (US 2002/0044208 A1) hereinafter referred to as the "Yamazaki Publication".

29. Regarding claim 11, as amended, of the Harada Publication in view of the Chao Publication clearly teaches **the touch control display screen with a built-in electromagnetic induction layer of wire lattice according to claim 1** (see above). However, of the Harada Publication in view of the Chao Publication does not explicitly teach **said wire lattice is**

attached and fixed on an insulated membrane by thermal pressing or thermal melting process to form said electromagnetic induction layer with said insulated membrane.

30. In the same field of endeavor, the Yamazaki Publication clearly teaches **said wire lattice is attached and fixed on an insulated membrane by thermal pressing or thermal melting process to form said electromagnetic induction layer with said insulated membrane** (see Yamazaki Publication at, but not limited to page 16, paragraphs[0360]-[0361] describing layer and adhesion method). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate wiring and insulating structure as taught by the Yamazaki Publication into the device of the Harada Publication in view of the Chao Publication because all are within the same field of endeavor and furthermore, because of the commonly known and understood benefits of such processing, namely, creating a superior bond between the surfaces.

31. Regarding claim 12, as amended, the Harada Publication in view of the Chao Publication and further in view of the Yamazaki Publication clearly teaches **the touch control display screen with a built-in electromagnetic induction layer of wire lattice according to claim 11** (see above), **wherein said insulated membrane is film material** see Yamazaki Publication at, but not limited to page 16, paragraphs [0360]-[0361] describing film).

Response to Arguments

32. Applicant's arguments with respect to claims 1, 4-7, 11-12 and 15-23 have been considered but are moot in view of the new grounds of rejection.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarvesh J. Nadkarni whose telephone number is 571-270-1541. The examiner can normally be reached on 8:00-5:00 M-Th EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sarvesh J. Nadkarni
Examiner – Art Unit 2629


AMARE MENGISTU
SUPERVISORY PATENT EXAMINER